

## B. REMARKS

The present response is in response to the pending Office action of December 28, 2007 in which claims 7 – 11 are under examination. Applicant appreciates Examiner's comments regarding wording and claim construction of the instant claims and has amended the claims accordingly.

Claims 7 -11 are firstly rejected under 35 USC 112, second paragraph, as being indefinite for failing to point out and specifically claim the subject matter that Applicant claims as his invention. Claim 7, which due to the previous restriction requirement is now the lead claim, recites a test strip for the colorimetric determination of a wine sample. Applicant's specification positively refers to the "wine sample" no fewer than 31 times;

More specifically, independent claim 7 has been amended to change claim language to cover what Applicant considers to be his invention. The invention is a test strip and claim 7 has been amended to recite the invention as such. This amendment describes each layer of the test strip; the attachment clause has been removed from claim 7a). The language of amended claim 7 now unquestionably recites the subject matter of Applicant's invention. The phrase "wine sample" appears positively in claim 7 as well as in the 31 times in the specification.

Claim 7 has also been amended to correct antecedent basis issues that were NOT pointed out by Examiner. More specifically, the first mention of "the" reagent test pad has been changed from [the] reagent test pad to a reagent test pad.

Claim 10 has been amended to claim a test strip wherein a wine sample is tested for substances and adsorptive properties. Claim 11 recites the details of how droplets of wine interact with the test strip when undergoing colorimetric determination of a wine sample. Claims 7 -11 together particularly point out and distinctly claim the multi-layered test strip for the analysis of wine samples.

Examiner has questioned the order of the layers of test strip of the present invention. Claim 7 has been amended to remove the description that each layer is independently attached to the support element by adhesive as this seems to

be a source of confusion. Figure 1, page 5, lines 1-8 of Applicant's specification and instant claim 11 unequivocally explain/describe/show the order of the layers of the test strip.

Examiner has presented a rejection of claims 7, 8, 10 and 11 under 35 USC 102(e) as being anticipated by Carroll et al in US 6,040,195. Applicant traverses the rejection. In '195 the interference removal layer is designed to remove insoluble components (red blood cellular components) from the solution that is tested. Carroll et al describe a diagnostic sanitary test strip in US patent 6,040,195 which analyzes blood samples, including removal of interferences involved in the analysis of blood. Performing analyses of human blood and other fluids is not comparable to testing samples such as red wine.

Further elaborating the difference between wine samples,

- Blood has a broad absorption spectra at acidic pH in the range 500 – 550 nm, and at alkaline pH.
- The chemical reactions which take place in blood analysis are distinct from those used testing wine and other food samples.
- More specifically, at the pH used for detection of some key wine analytes, the absorption maxima of tannins and anthocyanins, shifts to the 550 – 690 nm range. Shifting the wavelength of detection is not a suitable solution to the problem of colored substances interfering in the analysis of foods containing tannins and anthocyanins.

The instant claim 7 limits to the test strip of Applicant's to wine samples, claims 8-11 are dependent on 7. The fact that Carroll's '195 invention teaches a multi-layered test strip *in a heterogeneous fluid sample* ('195 claim 1) does not compromise the patentability of Applicant's test strip for wine samples under USC 102(e). The wine samples analyzed in the present invention are homogenous fluids. Furthermore, Carroll's test strip has six layers, which perform different functions than the four-layered test strip of the instant invention.

A major difference between Carroll '195 and the instant patent application is that the certain portions of the test strip of '195 is reactive with the fluid being

analyzed, as detailed in the abstract: *d) a chemically treated separating layer for removing an undesirable element, e.g. red blood cells, from the fluid received from the mesh screen.* Claims 7 -11 of the instant invention are the colorimetric measuring of various visually observed substances and adsorptive properties of wine samples. The test strip is not reacting with or removing anything from the wine droplets being tested.

In fact, Applicant's invention is described in a web site describing, among other things, wine analysis tests in which the test strip of this invention the test strip of this invention plays a role. Several pages of this site are included with this response. (Please see <http://accuvin.com> for further information) The wine analysis tests do not include instructions for changing any properties of the wine being analyzed. This is a major reason why the rejection of the present patent application vis-à-vis Carroll '195 under 35 USC 102(e) is incorrect.

The Office action further rejects claim 9 under 35 USC 103a as being unpatentable over Carroll in view of Carrico US 4,806,546. The Carrico patent teaches that the nylon beads can be used to specifically bind a family of analytes (nucleic acids), and that the nylon beads of his invention have reduced non-specific binding of other components in his sample and/or assay mixture.

The binding of nucleic acids is not at all relative to Applicant's invention. The concept of binding analytes for signal improvement is also not relevant to Applicant's invention since this assay technique requires multiple steps to complete. Applicant's invention allows a single step procedure for the colorimetric testing of wine samples.

The fact that the Carrico '546 nylon beads have a reduced non-specific binding teaches away from their use as a means of removing non-specific interference contaminants like anthocyanins from an assay mixture by binding as in the instant invention.

What is unique and unexpected in Applicant's invention is that a nylon 6,6 membrane, when used as an interference removal layer will absorb 95% or more of interfering red anthocyanins from a wine sample, rendering it analyzable without any further sample preparation. The technical and patent literature does

not indicate such a level of interference removal is achievable. In fact, the literature teaches away from what Applicant has proven.

For example, Matsuda (in US patent number 4,008,339, figure 2) teaches that only 35% of polyphenols are removed with un-substituted polyamides, and  
5 Ford (US patent number US 5,141,611, column 4, lines 28 - 34) teaches that only 3.9% of anthocyanins are removed by polyamides. Both of these patents teach away from the use of polyamide membranes as a means of removing dissolved interfering anthocyanins from a test wine sample as Applicant has done.

Furthermore, the 35 USC 103 (a) rejection is traversed based on the  
10 following. First, and in order to establish a *prima facie* case of obviousness under 35 USC 103 (a), each and every claimed limitation must be found, either singly or in combination, in the cited prior art. In addition, there must be a motivation found in the prior art as a whole to combine the references in the manner noted by the Examiner at the time of the invention. To that end, a  
15 piecemeal combination of features having only knowledge of the present invention (e.g. hindsight) is impermissible.

Applicant objects to the rejection for a number of reasons. Firstly, it is legally insufficient to identify a benefit or advantage that the suggested combination would share with the claimed invention it amounts to logical error as  
20 well. If a combination reaches the invention, then that combination will always and necessarily provide the same advantages as the invention. Such reasoning short-circuits the proper obvious analysis. It can be used to characterize ANY inventive combination as being obvious. An advantage that an invention shares with an Examiner's combination of references is incapable of distinguishing  
25 between obvious and non-obvious inventions

In order to further emphasize the differences between Applicants' invention and the prior art, claims 7 – 11 have been amended as presented and explained, *supra*.

30 Reconsideration is respectfully requested. Applicant is grateful for Examiner's comments and trust that this response to the Office Action puts the application in condition for allowance. Such allowance is earnestly solicited.

Regarding fees, this response is being mailed before the March 28, 2008 three-month time deadline. No additional fee is due.

Examiner is encouraged to speak with Applicants' representative if there are any questions or other matters of concern.

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Respectfully submitted,  
Michael M. Miller

by

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**CERTIFICATE OF MAILING**

I hereby certify that this correspondence, and attachments, if any, will be deposited with the United States Postal Service by First Class Mail, postage prepaid, in an envelope addressed to Commissioner for Patents, MS Non-fee Amendment, PO Box 1450, Alexandria, VA 22313-1450.

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/Lori M. Friedman, Reg #35,243/

Lori M Friedman \_\_\_\_\_ Registration Number 35,143

Date of Signature \_\_\_\_\_ 3-25-08 \_\_\_\_\_

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# Wine Analysis Tests - Wine Analysis Tests - Wine Analysis Tests

## Wine Analysis Tests - Wine Analysis Tests - Wine Analysis Tests



...Making MONITORING  
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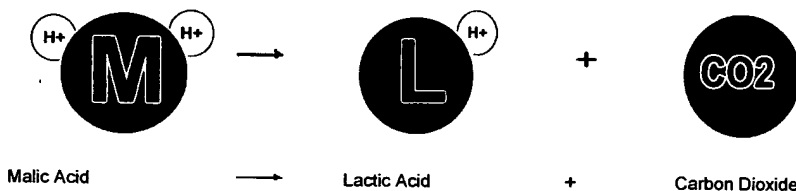


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**Free e-Book!!** Accuvin's second free e-book, "Malolactic Fermentation," is now available. It's up to date, and includes 2008 references. Here is an excerpt.

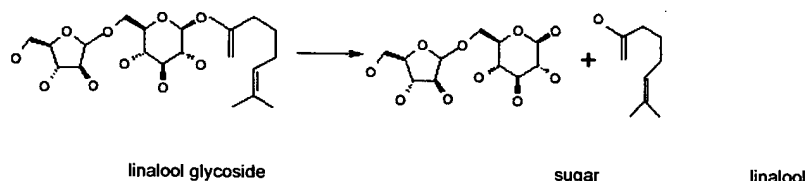
**What is malolactic fermentation (MLF)?** Quite simply it is a biochemical process, conducted in most red wines and some white wines by certain lactic acid bacteria, which results in a *lower titratable acidity, improved microbial stability, and improved flavor and mouthfeel*. The lower titratable acidity comes about through the conversion of the dicarboxylic acid malic acid to the monocarboxylic acid lactic acid and carbon dioxide. Here's the major chemical reaction:



... A fourth flavor contribution made by malolactic bacteria during MLF is the generation an enzyme family called glycosidases. Grapes, as well as yeasts during primary fermentation, create a lot of flavor and aroma compounds. Many of these compounds, however, are chemically attached to sugar molecules as they float around in the wine; while they are attached they are odorless and do not contribute to a wine's character. During malolactic fermentation lactic acid bacteria produce glycosidases, which in turn break off the sugar component from the aroma compounds and release these, increasing a wine's overall flavor and providing it with enhanced varietal aromas.

Here's what the reaction with a glycosidase enzyme looks like with one grape aroma compound, a monoterpene:

For the chemist:



For the non-chemist:



To download, click on "e-Books" on the left side of this page.

*The labels indicate desired numbers. What will your wine test?*

### PRESS ROOM The Numbers Kit for Wine Lovers

Available now is a kit for wine lovers who want to know more about what in their favorite wines appeals to them. Do they like their wine put through malolactic fermentation so it is smoother, mellower on the palate, full-bodied, and full of character? Do they like their wines sweeter, dryer, or in between? What is their preferred level of acidity? Where does their wine fall on the pH chart - generally considered acceptable or less than acceptable?

Malic Acid, Titratable Acidity, pH, and Residual Sugar easy-to-use wine analysis tests are included. These tests are products of Accuvin, the developer, manufacturer, and distributor of Quick Tests wine analysis tests worldwide.

- Included in the kit are:
- Three numbers charts to record your results
  - Complete illustrated instructions
  - Everything required to run 15 Malic Acid colorimetric tests on the spot at a restaurant or in your home
  - Everything required to run 15 Titratable Acidity colorimetric tests on the spot
  - Everything required to run 15 pH colorimetric tests on the spot
  - Everything required to run 15 Residual Sugar colorimetric tests on the spot
  - Post card for 10 free Titratable Acidity tests since the Titratable Acidity test shelf life is half that of the other tests (free shipping on replacements)
  - FYI page for more information about the tests
  - Information on flavors in wines
  - Pages to record your favorite wines and their sources
  - Leather holder

### Experts Available to Answer Questions

Mike Müller:  
email questions to  
[mmuller@accuvin.com](mailto:mmuller@accuvin.com)  
call 541-753-4568

Elizabeth Kilpatrick:  
email at  
[elizabethk@accuvin.com](mailto:elizabethk@accuvin.com)

Introducing  
"The  
Numbers  
Kit for  
Wine  
Lovers"

(see Press  
Room on the  
right for  
description)

**pH** 3.0 3.2 3.4 3.6 3.8 4.0  
Soft characters  
No after taste  
Dense, even color  
Lesser Wines

**Titrate Acid** 4 6 7 8 9 11  
Robust Reds 6 to 8  
Delicate Whites 7 to 9  
Sweet, Sparkling 9 to 11

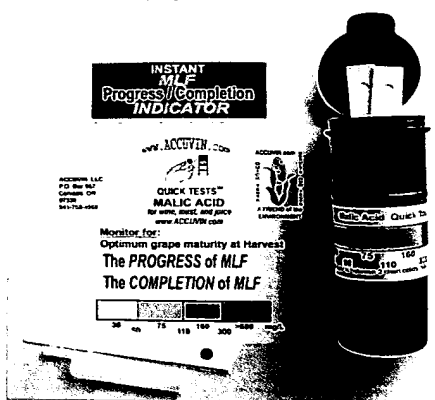
**Residual Sugars** <100 500 1000 2000  
Bone Dry <500  
Dry 500-1000  
Semi-dry 1000-2000  
Burning Sweet >2000

**Malic Acid** 0 30 75 160 >500  
MLF REDS Mellow  
NO MLF REDS Harsh

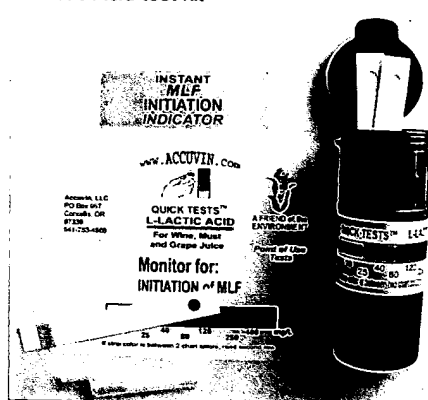
The Numbers Kit for Wine Lovers  
Renoir, 1881  
Know why you like the wines you like!

(click on "Numbers Kit" at left for full product details)

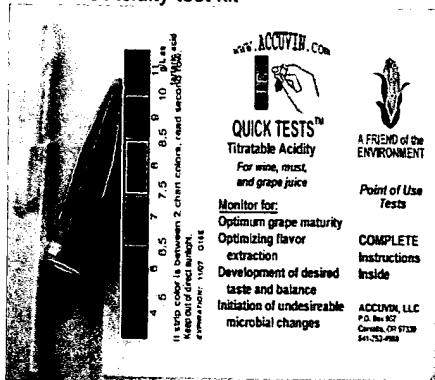
Malic Acid test kit



L-Lactic Acid test kit

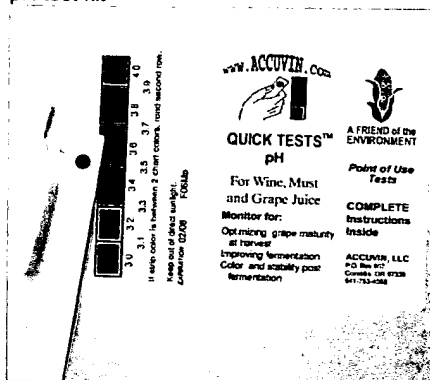


Titrate Acid test kit

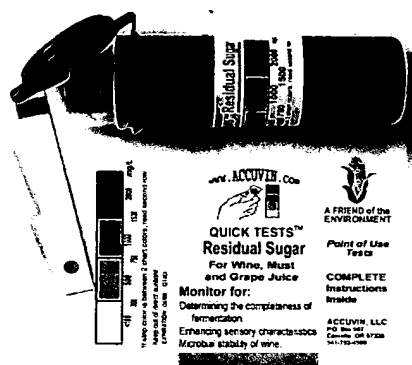
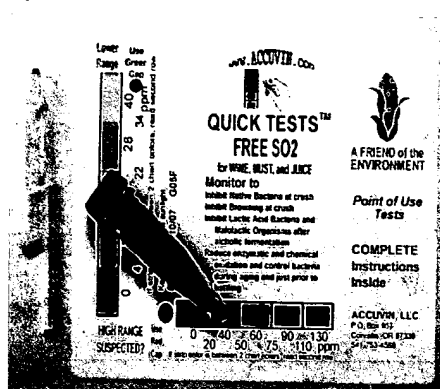


Free SO2 test kit

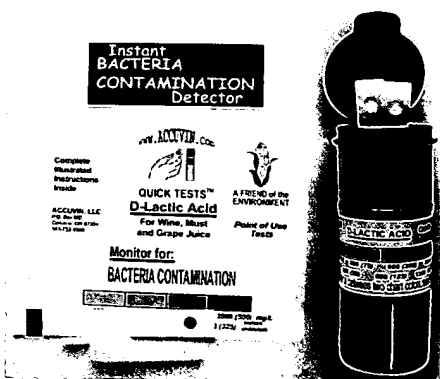
pH test kit



Residual Sugar test kit



### D-Lactic Acid test kit



### PRESENT ACTIVITIES IN THE NORTHERN HEMISPHERE

Over the past five years the value of the euro has risen by about a third versus the dollar. Initially this did not result in much of a shift in U.S. wine prices for European wines as producers and distributors worked with smaller margins, and wines from less expensive estates or regions were substituted. It is becoming extremely difficult for this trend to continue. U.S. producers have an opportunity to increase their market share providing they also maintain or improve the value of their wines.

The market share of U.S. wines in Europe can also be increased. European wine drinkers have traditionally had some resistance to American wines. However, they have always appreciated good value, and the weak dollar is bound to make many U.S. wines significantly more attractive.

The key to enduring success in both markets is maximizing value and stressing quality.

Sources: The Oregonian, 8 Jan 2008; Fermentation - the daily wine blog, 18 Dec 2007; Dr. Vino's blog, 16 Nov 2007; Wine Marketing Forum, 3 Oct 2007; International Herald Tribune, 5 Dec 2007.

### PRESENT ACTIVITIES IN THE SOUTHERN HEMISPHERE

Exports from southern hemisphere countries have skyrocketed in the last 12 years. Australia's annual production increased from 7 million hectoliters to 14 million, and its worldwide export ranking rose from 11th to 4th; Chile increased production from 5 million hectoliters to 8 million, and increased its export ranking from 7th to 5th. Both are now ahead of the 6th place U.S. in exports. How did they achieve their success? First, good vineyard land is plentiful and relatively inexpensive. Second, labor is plentiful and inexpensive. Third, most of these countries enjoy favorable exchange rates. Fourth is a focus on quality. All these countries have had a reputation for producing marginal wines, but each has focused on quality improvement through training, through technology transfer from established wine-producing countries, by developing internal research capabilities that focus on their own unique growing conditions, and by *monitoring their products* from the vineyard through fermentation and aging. Last but not least is a countrywide strategy focusing on export expansion through improved satisfaction of consumer preferences.

Sources: CNNMoney.com, 1 Sep 2003; USDA Gain Report, Chile, Wine Annual, 2007; USDA Gain Report, Argentina, Wine Annual, 2006; USDA Gain Report, Australia, Wine Annual, 2006; USDA Gain Report, South Africa, Wine Annual, 2006; N. Perovic, Brandeis Graduate Journal 2006, "Wine Export and Country Origin."

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